



WATER WORKFORCE WEBINAR SERIES

Utility and Community Partnerships Help Build Water Careers

Office of Wastewater Management

Office of Water

U.S. Environmental Protection Agency

September 21, 2022

**We will start in a couple minutes.
Thank you.**



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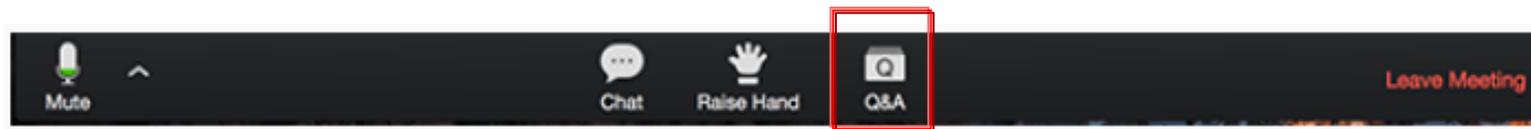
U.S. Environmental Protection Agency

September 21, 2022

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Webinar Logistics

- This webinar is being recorded
- Participants will be in listen-only mode
- To submit a question, use the Q&A function



- Webinar slides and recording information will be sent out to all participants following the webinar

Having Audio Difficulties?

- Call in to any of these phone numbers:

+1 669 254 5252

+1 669 216 1590

+1 646 828 7666

+1 551 285 1373

Webinar ID: 161 400 2964

Opening Poll: Please indicate the sector that you work in:

- Utility
- State or Local Government
- Federal Government
- Consultant
- Academia/Educator
- Other

Water Sector Workforce at EPA

- Reminders:
 - Check out our website for resources and updates:
<https://www.epa.gov/sustainable-water-infrastructure/water-sector-workforce>
 - Workforce Initiative
 - Past Workforce Webinars
 - Workforce Case Studies
 - Stay tuned for information on our next webinar. If you are registered for this webinar you are automatically on the email list for future webinars!

September 21, 2022

Utility and Community Partnerships Help Build Water Careers

Jim Horne, Sustainable Utilities Program
Manager, U.S. EPA Office of Wastewater
Management

September 21, 2022

Speakers:



Peter Coffaro, Director, Community Outreach & Business Engagement, Milwaukee Metropolitan Sewerage District (Wisconsin)



Jeff Spence, Diversity, Equity, and Inclusion Officer, Milwaukee Metropolitan Sewerage District (Wisconsin)



Deierdre Weir, Director of Organizational Development, Training and Development, Great Lakes Water Authority (Michigan)



Patricia Butler, Manager, Organizational Development, Great Lakes Water Authority (Michigan)

Webinar slides and recording will be sent to registrants within a week after the webinar.

CREATING THE WATER WORKFORCE OF THE FUTURE WEBINAR SERIES

Utility and Community Partnerships Help Build Water Careers

Across the nation, leading utilities are building relationships with community groups and implementing innovative programs to attract and retain a diverse and trained workforce. Through partnerships, many of these programs educate people from disadvantaged communities and connect them with employment opportunities. A career in water can help them realize their goals and build stronger and more resilient communities. Please join us on September 21, 2022, to hear from two utilities that have embraced community partnerships to build the Water Workforce of the Future.

This webinar is part of an ongoing webinar series hosted by EPA, in partnership with leading water sector organizations around the country. More information on this webinar series can be found at <https://www.epa.gov/sustainable-water-infrastructure/water-sector-workforce-webinars>

ATTENDANCE IS FREE – REGISTER NOW!

[\[Register Here\]](#)

SEPTEMBER 21, 2022
12:30 - 2:00 PM Eastern Time

Moderators:

- o Jim Horne, U.S. EPA

Speakers:

- o Peter Coffaro, Director, Community Outreach & Business Engagement, Milwaukee Metropolitan Sewerage District (WI)
- o Jeff Spence, Diversity, Equity and Inclusion Officer, Milwaukee Metropolitan Sewerage District (WI)
- o Deirdre Weir, Director of Organizational Development, Training and Development, Great Lakes Water Authority (MI)
- o Patricia Butler, Manager, Organizational Development, Great Lakes Water Authority (MI)





MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

EPA Water Workforce Webinar: Utility and Community Partnerships to Help Build Water Careers

Jeff Spence, Diversity, Equity, & Inclusion Officer

Pete Coffaro, Director, Community Outreach & Business
Engagement

WHAT DOES MMSD DO?

Flood Management



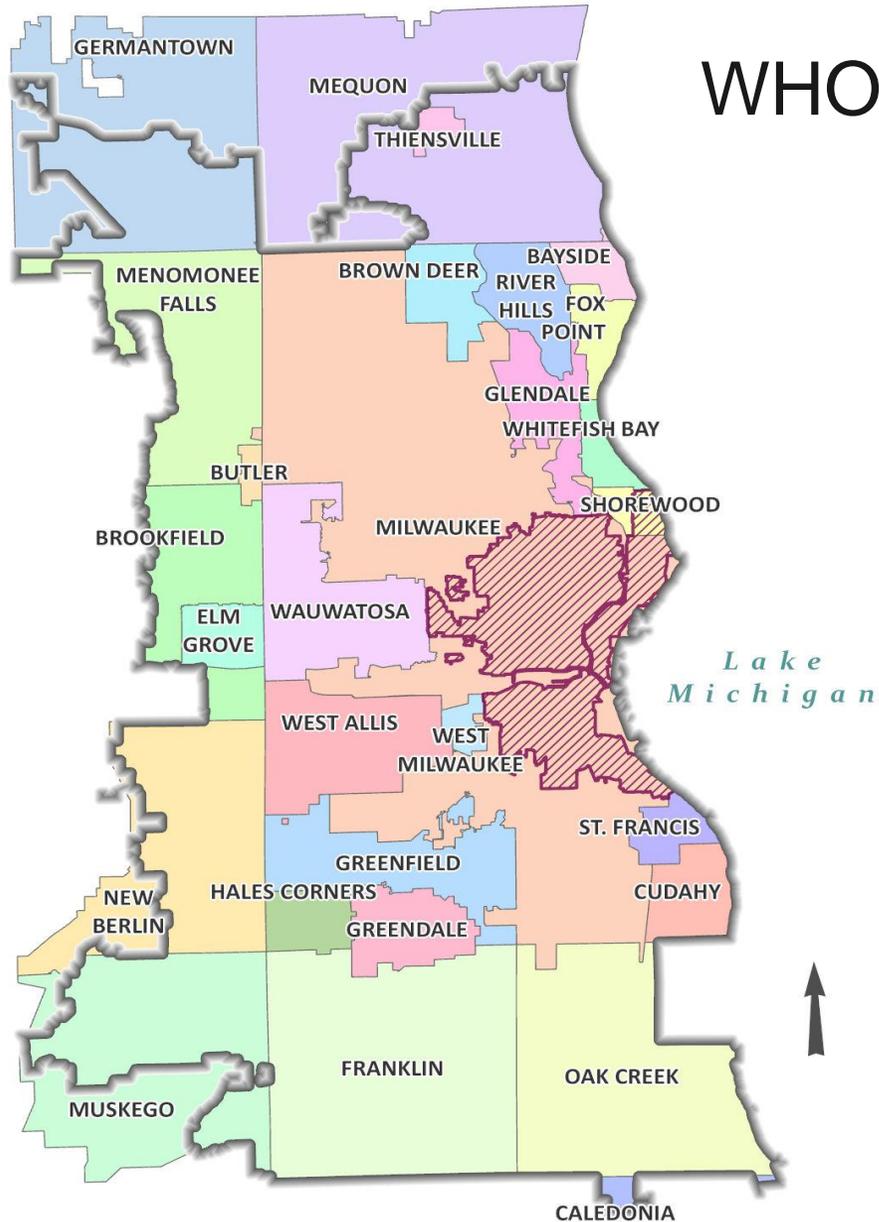
Water Reclamation via partnership
with Veolia Water



Green Infrastructure



WHO DOES MMSD SERVE?



1.1 Million Customers

28 Municipalities

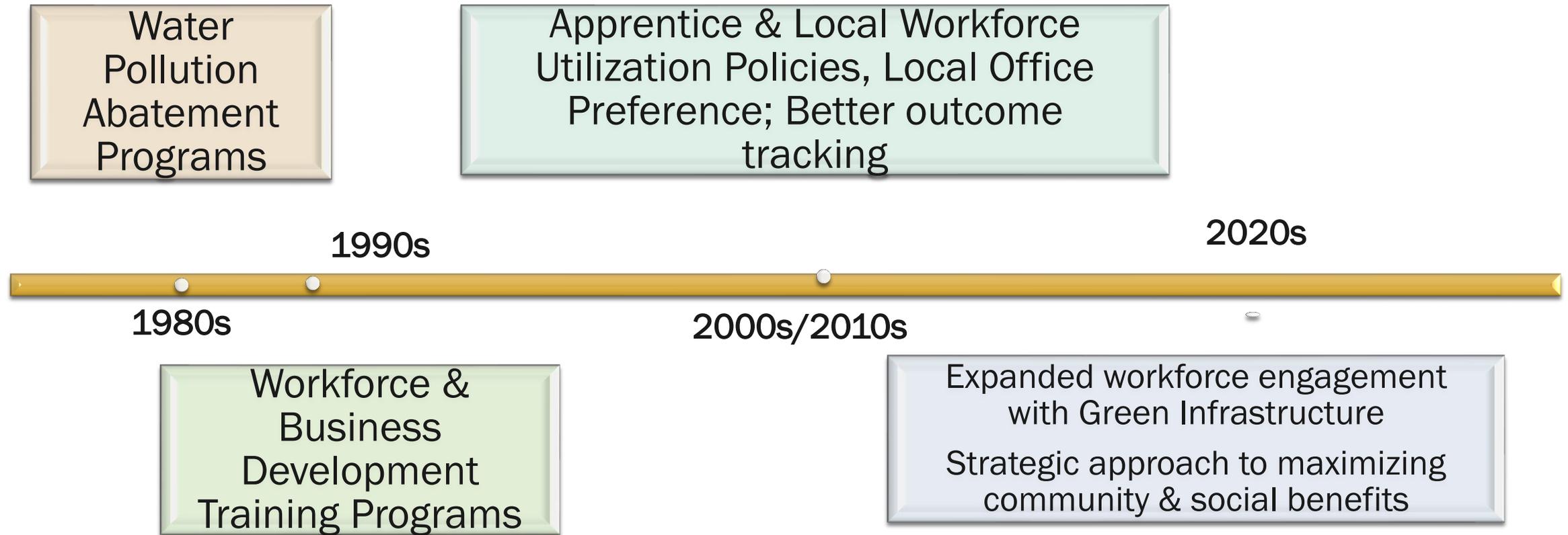
411 Square Miles

WATER UTILITIES AS ANCHOR INSTITUTIONS



- Maintains an adequate workforce
- Cultivates a well-trained workforce
- Builds effective talent pipeline to underrepresented community members
- Impacts employment practices of vendors
- **Partners strategically with regional workforce system**

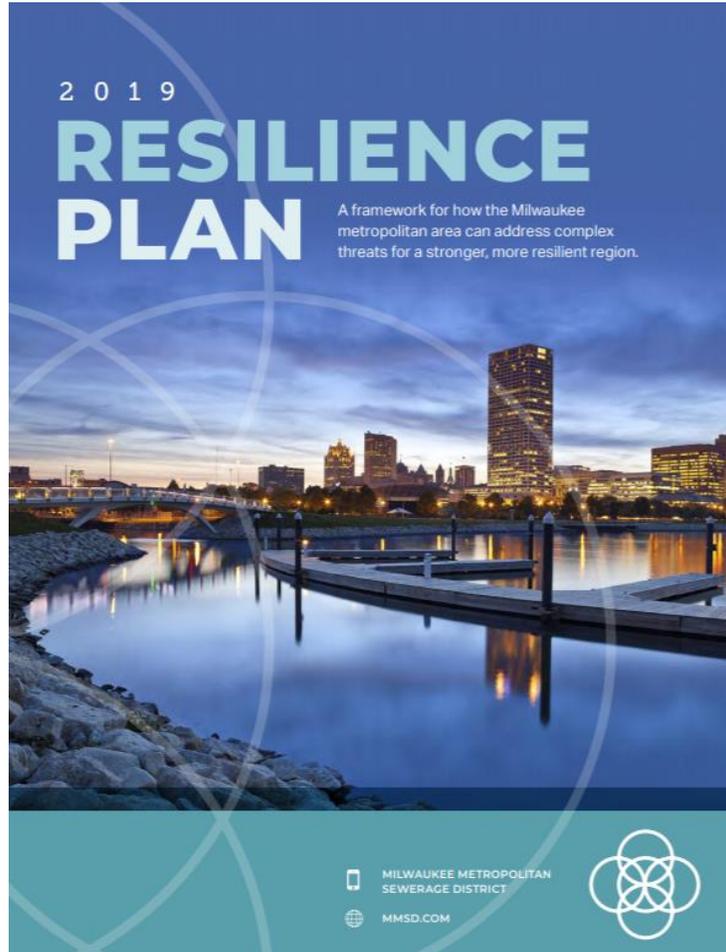
EFFORTS HAVE BEEN BUILDING



ALIGNING EQUITY PLANS WITH ACTION



AN EQUITABLE WATER FUTURE Milwaukee



WATER NEEDS ASSESSMENT

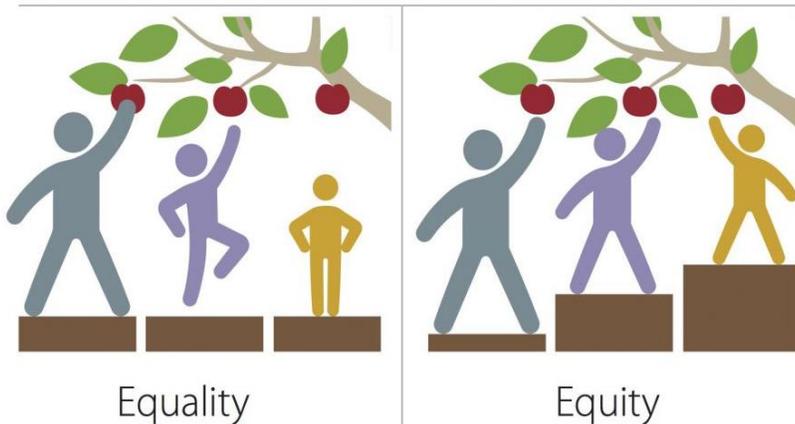
PATHWAYS TO EMPLOYMENT IN A WATER CENTRIC CITY



Strategic Themes

Align external and internal efforts

Increase partnerships and collaborations



Leverage funding & partners' strengths

Evaluate short & Long-term outcomes

LACK OF AWARENESS ABOUT THE OPPORTUNITIES IN THE WATER SECTOR

- 12,500 to 18,000 jobs; roughly 2% of regional economy
- 1,200 employed in metro area water utilities
- 1,400 annual openings among 17 water related industry classifications
- Water career pathways not widely known

COMMUNITY BENEFITS POLICIES

Local Worker Utilization

- ~ 50% of construction hours worked by residents of the District's service area & 25% of hours worked by residents from neighborhoods high on Social Vulnerability Index

Apprentice Utilization

- 50 apprentices worked over 10,000 hours in 2021

Intern Utilization

- Construction and design firms required to utilize interns





NEED TO INCREASE DIVERSITY OF WORKFORCE

- Laboratory Technicians
- Monitoring & Sampling Technicians
- Survey Techs/Project Surveyors
- Construction Inspectors
- IT Technicians

THE CAREER CONTINUUM

Career Awareness

- K-12 Environmental Education
- Tours
- Career Fairs

Career Exploration

- High School Ambassador Program
- High School Water Journey Internships

Career Preparation

- College Internships/Co-ops
- External internships (RISE)
- Certified Pre-Apprenticeship
- Apprenticeship

FRESH COAST AMBASSADORS

- Introduces young adults to water industry and green infrastructure career pathways
- Increases personal & professional development through trainings and industry certifications
- Introduces members to industry professionals



“This experience has made and shaped my relationship to the environment. The program opened my eyes to how much nature impacts us, not only in resources, but also in community. I had learned so much more about the importance of taking care of the environment in order to preserve it for later generations.” – Hanan Ali

HIGH SCHOOL WATER JOURNEY

Partnership with the
Milwaukee Boys &
Girls Club

- Paid internship
- Life skills
- Career exploration

High school students
placed at a variety of
organizations commit to
participate in a water
learning journey over the
course of seven weeks

- 7 specific field trips
- 53 students with 6
environmental partners



DISTRICT INTERNSHIPS & CO-OPS

- Integrates academic and career interests
- Heightens awareness of career options
- Provides limited-term work experience
- 30-year program



DISTRICT INTERNSHIPS & CO-OPS



<https://youtu.be/HeqQJLJ8SfE>

REGIONAL INTERNSHIPS IN SCIENCE & ENGINEERING (RISE)

- Career and professional development program for college students
- Placed with District contractors /consultants
- Over 85 Milwaukee students have participated since 2009



CERTIFIED PRE-APPRENTICE TRAINING

- Facilitates direct connection to construction trades
- Pre-apprenticeship training designed by the trades
- Realistic job preview
- 22% of all apprentices on District projects completed a pre-apprenticeship



Lab Tech
Apprentice
2-year apprenticeship

IT Operations
Technician
1-year registered
apprenticeship

Registered Apprenticeship

Certified Pre-Apprenticeship

Youth Apprenticeship

Connection to the workforce system

Employ Milwaukee

Workforce Development Board



The Job Center of
Wisconsin



WATER SPECIFIC CAREER FAIRS



ONE WATER
CAREER FAIR

AUGUST 24
3:00 PM to 6:00 PM

Milwaukee DNR Headquarters
1027 W St Paul Ave, Milwaukee

Driving Innovation, Equity, Inclusion

- Develop clear career pathways and increase career awareness efforts
- Strengthen linkage between workforce programs and employment
- Ensure equity centered talent recruitment approach
- Develop more receptive and culturally competent environments
- Ensure inclusivity & belonging is at the core of workplace culture



STRATEGIC PARTNERSHIPS OF MUTUAL BENEFIT

- US Water Alliance
- Water Equity Task Force
- Construction Trade Craft Unions
- Contractors and Consultants
- Minority Chambers of Commerce
- Industry Associations
- Workforce Intermediaries
- Educational Institutions
- Environmental Organizations
- Community Based Organizations

Jeff Spence

Diversity, Equity, & Inclusion Officer

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Pete Coffaro

Director, Community Outreach & Business Engagement

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Supporting Apprentices Through Community Partnerships

September 2022 | Deierdre Weir & Patricia Butler

Water System

5 
Treatment Plants

 816 miles of
transmission main 

 **3.8 MILLION**
PEOPLE SERVED

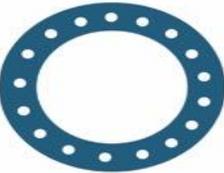


88 Member Partners
across **112** communities



Treatment capacity of **1,720**
million gallons per day



 **3** Water
Intakes 

19 BOOSTER
PUMP STATIONS



1,698 SQ. MILE
service area

MISSION:

To exceed our customer's expectations by utilizing best practices in the treatment and transmission of water and wastewater, while promoting healthy communities and economic growth.

Wastewater System



The largest single-site wastewater treatment facility in the United States



195 miles of trunk sewers & interceptors



2.8 MILLION
PEOPLE SERVED



19 Member Partners
across **79** communities



Treatment capacity of **1,700**
million gallons per day



8 
CSOs

3 
Interceptors

9 PUMP
STATIONS



944 SQ. MILE
service area

VISION:

Through regional collaboration, GLWA strives to be the provider of choice, dedicated to efficiently and effectively delivering the nation's best water and sewer services in partnership with our member partners.

- 
- Attract New Workers
 - Retain New Workers
 - Transfer Knowledge
 - Upskill Current Workers
 - Develop Community Partnerships

Workforce Development Focus

Overview



- Apprenticeships
- One Water Institute
- Employer Led Collaborative

Apprenticeships

Current State



- ◆ By 2030, one in five Americans will be 65 years or older
- ◆ By 2035, for the first time in U.S. history, retirement-age Americans will outnumber Americans under 18
- ◆ 2018 EPA Report: The median age of water employees is 48 years and 30 to 50 percent of these workers will be eligible to retire within the next 5 to 10 years
- ◆ US manufacturing is expected to have 2.1 million unfilled jobs by 2030
- ◆ 97% of manufacturing firms are concerned about brain drain

Why Apprenticeships?

- 💧 USDOL: 92% Employment Retention
- 💧 70% Growth in New Apprentices Since 2011
- 💧 26,000 RAPs nationwide
- 💧 600,000+ apprentices nationwide



Proven Track Record

First Apprenticeship

- 💧 We didn't know what we didn't know
- 💧 We didn't have community partners
- 💧 We did not have a partnership with our local Workforce Development Agency
- 💧 We had executive support
- 💧 We reached out:
 - 💧 USDOL
 - 💧 Focus: HOPE



Community Partnership Focus: HOPE

💧 Workforce Development Organization

- 💧 Diversity

- 💧 Barriers to Employment

- 💧 Untapped Market

💧 Pre-Apprenticeship Program

- 💧 Computer & Financial Literacy

- 💧 Shop Math, Blueprint Reading

💧 Grant Opportunities and Support

💧 USDOL Apprenticeship Ambassador

Focus: HOPE



Community Partnerships

💧 Michigan Works!

- 💧 Community Outreach
- 💧 Job Boards & Job Fairs
- 💧 Grant Funding
- 💧 Apprenticeship Support Services



💧 U.S. Dept. of Veterans Affairs

- 💧 Support for Veterans in Effective Apprenticeships Act of 2019
- 💧 Housing Assistance: GI Bill



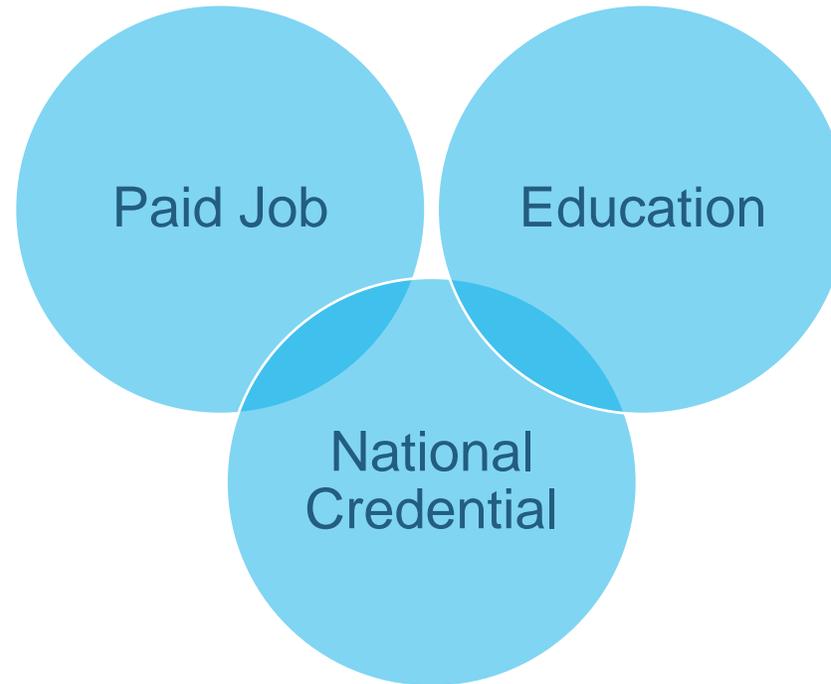
Community Partnerships

💧 Education Partners

- 💧 Related Training Instruction
- 💧 Talent Pool
- 💧 Career Fairs
- 💧 Grant Funding



Registered Apprenticeships (RAPs)



Earn While You Learn

Apprenticeship Components



On-the-Job
Learning (OJL)



Related Training
Instruction (RTI)

On-the-Job Learning



- Daily operations learning
- Journeyworker/Mentor
- 1:1 ratio
- Implicit Knowledge Transfer

What We Do



Related Training Instruction



Foundational Theory



Classroom Training



Education Partner

College
Trade School
Technical School

Why We Do What We Do

GLWA Apprenticeships

Apprenticeship	Start	End	Program Length (years)	GLWA Holds Standards
*Mechatronic Tech (EICT-I)	Jan-17	Jun-20	3	Yes
Maintenance Mechanic (Maintenance Technician)	Jan-19	In progress	4	Yes
Electrician Maintenance (EICT-E)	Mar-20	In progress	5	Yes
Water Treatment Plant Operator (Water Tech)	Mar-22	In progress	3	Yes
IT Business Analyst	May 2022	In progress	1	No

*Second Cohort announced; scheduled to launch January 2023

Employer Benefits

Recruit	Recruit and develop a highly skilled workforce – Your Way
Transfer	Transfer Knowledge Reduce “Brain Drain” 2-Way Learning
Target	Target and fill difficult positions
Reduce	Reduce turnover and improve loyalty
Instill	Instill your utilities’ culture
Invest	Invest in your community

GLWA Apprenticeship Statistics

App Program	# of App Hired	# of App Grads	App Grad Rate	# Current App/Grad	Current Retention Rate
Mechatronics	20	20	100%	16	80.0%
Maintenance	7	N/A	N/A	2	28.6%
Electricians	20	N/A	N/A	16	80.0%
Total/Retention Average	47	N/A	N/A	34	72.3%

One Water Institute

One Water Institute

Mission Statement

One Water Institute will provide quality education, training, and leadership development to One Team participants, creating a highly-skilled workforce able to provide quality services to customers throughout Southeastern Michigan.

ONE  **WATER**
INSTITUTE



Vision

Through regional collaboration and support, One Water Institute aims to be the premier training and development facility for water sector providers in Southeast Michigan.

One Water Institute Goals

- ◆ Provide One Team participants with the increasing skills and knowledge required to successfully manage and improve the region's water and water recovery systems.
- ◆ Facilitate professional growth and development of One Team participants.
- ◆ Increase One Team participants' professionalism and performance across the region by promoting a common language, skillset, and knowledge base.

Open to GLWA Member Partners

One Water Institute: Academies

Safety



Water and Field Services Operations



Wastewater Operations



Technology



Leadership Development



Leader-in-Me



MATH BOOT CAMP



Math Boot Camp

- ◆ GLWA team members encounter math-related problems on the job every day, especially team members who work in operations.
- ◆ Math Boot Camp provides team members who work in operations with a comprehensive six-week training course designed to build confidence in the understanding and application of basic mathematics and problem-solving.
- ◆ Team Members learn and practice solving math problems that are important to performing job duties and passing state certification examinations.

Math Boot Camp

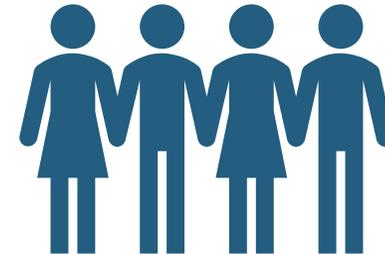
- ◆ Team Members, working in a collaborative and supportive environment, receive instruction, and complete in-class practice problems in the following areas:
 - ◆ Addition and Subtraction
 - ◆ Multiplication and Division
 - ◆ Fractions
 - ◆ Percentages
 - ◆ Conversions
 - ◆ Algebraic equations
 - ◆ Story problem application

Employer Led Collaborative

Employer Led Collaborative (ELC)

NEW

- ◆ SE MI Employer-driven talent solutions
- ◆ State of Michigan Grant (MICA 3.0) Awarded
 - ◆ Focus: HOPE: Convener
 - ◆ GLWA: Lead Employer
 - ◆ Community Partners: Current and New
 - ◆ **Member Partners**
 - ◆ Other Employers
 - ◆ Michigan Works! Agencies
 - ◆ Community Colleges/Trade School
 - ◆ Labor Unions



Employer Led Collaborative (ELC)

💧 Grant Deliverables

- 💧 Pre-apprentice training
- 💧 Apprentice Enrollment
- 💧 Upskill Workers
- 💧 High School Information Sessions
- 💧 Attend Talent Pipeline Management (TPM) Academy – U.S. Chamber of Commerce Foundation
- 💧 Reduce the number of unfilled job openings



U.S. Chamber of Commerce
Foundation



ELC & TPM: Our Path Forward

💧 TPM: End-to-end Talent Solution

- 💧 Supply Chain Approach
- 💧 Employers = End Customers
- 💧 Community Partnerships
- 💧 Program & Career Path Development



💧 ELC Committee: TPM Academy Graduates 6/22





IF YOU'RE INTERESTED IN
APPRENTICESHIP OPPORTUNITIES
visit glwater.org/careers

<https://www.youtube.com/watch?v=w1TFeDe1akl>

Contact Information

💧 Deierdre Weir, Director, Organizational Development, Training & Development

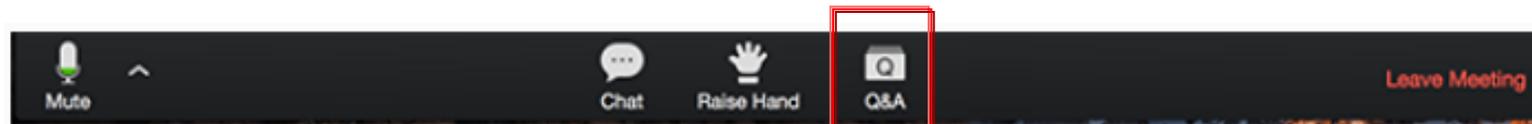
deierdre.weir@glwater.org

💧 Patricia Butler, Manager, Organizational Development, Performance & Apprenticeships

patricia.butler@glwater.org

Q&A Session

Webinar slides and recording will be sent to registrants in the next week.



Closing Poll

On a scale of 1-10, with 10 being the best score and 1 being the worst, how would you rate today's webinar?

If you do not see a poll window pop up, please use the **Chat function** to type in your answer.

Thank you!

